IEEE P802.11  
Wireless LANs

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| Resolution for CID 11742 | | | | |
| Date: January 11, 2018 | | | | |
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Abstract

This submission proposes resolutions for CID 11742 received for TGax LB230

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGax Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify existing material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

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| **CID** | **Commenter** | **Pg / Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 11742 | George Cherian | 290.38 | 27.9.2.1 | When an AP hosts multiple BSSs, but does not support Multi-BSSID feature (for various reasons), the STAs that are associated to one of the BSS of the AP would not know what other BSSs are that are hosted by the same AP. Hence the STA may perform SR over those packets for other BSSs hosted by the same AP. Fix it. | As in the comment. May need some indication from the AP. | Revised –  Agree in principle with the commenter. In HE Operation element, we propose to revise the MaxBSSID Indicator field as Intra-BSS Set Indicator field and the Multiple BSSID AP field as Existence of Intra-BSS Set Indicator.  **TGax editor, please make changes as suggested in doc 11-17-xxxxr0 under CID 11742** |

***TGax Editor: Please change 9.4.2.238 as follows:***

* **HE Operation element**

The operation of HE STAs in an HE BSS is controlled by the HT Operation element, the VHT Operation element and the HE Operation element. The format of the HE Operation element is defined in Figure 9-589cq (HE Operation element format).

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|  |  |  |  |  |  |  |  |
|  | Element ID | Length | Element ID Extension | HE Operation Parameters | Basic HE-MCS And NSS Set(#7718) | VHT Operation Information | Intra-BSS Set Indicator |
| Octets: | 1 | 1 | 1(#Ed) | 4 | 2(#9674) | 0 or 3(#3035) | 0 or 1 |
| **Figure 9-589cq – HE Operation element format** | | | | | | | |

The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

The format of the HE Operation Parameters field is defined in Figure 9-589cr (HE Operation Parameters field format).

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|  | B0   B5 | B6       B8 | B9 | B10      B19 | B20 | B21 | B22    B27 | B28 | B29 | B30 | B31 |
|  | BSS Color | Default PE Duration | TWT Required | TXOP Duration RTS Threshold(#Ed) | Partial BSS Color | VHT Operation Information Present | Reserved | Existence of Intra-BSS Set Indicator | Tx BSSID Indicator | BSS Color Disabled | Reserved |
| Bits: | 6 | 3 | 1 | 10 | 1 | 1 | 6 | 1 | 1 | 1 | 1 |
| **Figure 9-589cr – HE Operation Parameters field format** | | | | | | | | | | | |

**(…existing texts …)**

The Existence of Intra-BSS Set Indicator field is set to 1 to indicate that the Intra-BSS Set Indicator field is present. Otherwise, the Intra-BSS Set Indicator field is not present.

**(…existing texts …)**

The Intra-BSS Set Indicator field is set to the value n to indicate that a BSSID with 48-n MSBs equal to 48-n MSBs of the associated BSSID is in Intra-BSS set. This field is present if the Existence of Intra-BSS set Indicator field is 1 in HE Operation Parameters field and is not present otherwise.

* BSS\_COLOR

***TGax Editor: Please update the 9th paragraph in this section as follows (11ax D2.0 P305L61):***

All APs that are members of a multiple BSSID set shall use the same BSS color.

All APs that are members of an Intra-BSS set shall use the same BSS color. (#11742)

* **Intra-BSS and inter-BSS frame determination**

***TGax Editor: Please change the 1st and 2nd paragraph in this section as follows (11ax D2.0 P221L51):***

A STA that obtains at least the RXVECTOR for a PPDU shall classify the PPDU as an inter-BSS frame if at least one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR is not 0 and is not the BSS color of the BSS of which the STA is a member.
* The PPDU is an HE PPDU with the RXVECTOR parameter BSS\_COLOR not equal to 0 and the STA is an HE STA associated with a non-HE AP.
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID not equal to the BSSID[39:47] of the BSS with which the STA is associated or the BSSID of any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID is in Intra-BSS set and the RXVECTOR parameter GROUP\_ID is 0.
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] not equal to the partial BSS color announced by the BSS of which the STA whose dot11PartialBSSColorImplemented is equal to true is a member and RXVECTOR parameter GROUP\_ID equal to 63 when the Partial BSS Color field in the most recent HE Operation element is 1.
* The PPDU is either a VHT MU PPDU or an HE MU PPDU with the RXVECTOR parameter UL\_FLAG equal to 0 and the STA is an AP.
* The PPDU carries a frame that has a BSSID field, the value of which is not the BSSID of the BSS with which the STA is associated or any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID in Intra-BSS Set.
* The PPDU carries a frame that does not have a BSSID field but has both an RA field and TA field, neither value of which is equal to the BSSID of the BSS with which the STA is associated or the BSSID of any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID in Intra-BSS Set. The Individual/Group bit in the TA field value is forced to 0 prior to comparison.

Otherwise, a STA that obtains at least the RXVECTOR for a PPDU shall classify the PPDU as an intra-BSS frame if at least one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is 0 or the BSS color of the BSS of which the STA is a member.
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID equal to the BSSID[39:47] of the BSS with which the STA is associated or of any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID in Intra-BSS Set, and the RXVECTOR parameter GROUP\_ID equal to 0
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] equal to the partial BSS color of the BSS of which the STA whose dot11PartialBSSColorImplemented is equal to true is a member, the RXVECTOR parameter GROUP\_ID is equal to 63 and the Partial BSS Color field in the most recent HE Operation element is 1.
* The PPDU carries a frame that has an RA, TA or BSSID field value that is equal to the BSSID of the BSS with which the STA is associated or the BSSID of any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID in Intra-BSS Set. The Individual/Group bit in the TA field value is forced to the value 0 prior to the comparison.
* The PPDU carries a Control frame that does not have a TA field and that has an RA field value that matches the saved TXOP holder address of the BSS with which the STA is associated or any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member or any BSSID in Intra-BSS Set.
* Power management
* Intra-PPDU power save for non-AP HE STAs

***TGax Editor: Please make the following changes to this section (11ax D2.0 P221L51):***

A non-AP HE STA that is in intra-PPDU power save mode may enter the doze state until the end of a PPDU currently being received when one of the following conditions is met:

* The PPDU is an HE MU PPDU where the RXVECTOR parameter BSS\_COLOR is the BSS color of the BSS with which the STA is associated, the RXVECTOR parameter UL\_FLAG is 0 and the RXVECTOR parameter STA\_ID\_LIST does not include the identifier of the STA or the broadcast identifier(s) intended for the STA and the BSS Color Disabled subfield is 0 in the most recently received HE Operation element from the AP to which it is associated.
* The PPDU is an HE MU PPDU, HE SU PPDU or HE ER SU PPDU and one of the following conditions are true:
* The RXVECTOR parameter BSS\_COLOR is the BSS color of the BSS with which the STA is associated, the RXVECTOR parameter UPLINK\_FLAG is 1 and the BSS Color Disabled subfield is 0 in the most recently received HE Operation element from the AP to which it is associated.
* The RXVECTOR parameter BSS\_COLOR is the BSS color of the BSS with which the STA is associated, the RXVECTOR parameter UL\_FLAG is 0 and a PHY-RXEND.indication(UnsupportedRate) primitive was received and the BSS Color Disabled subfield is 0 in the most recently received HE Operation element from the AP to which it is associated.
* The PPDU is an HE TB PPDU where the RXVECTOR parameter BSS\_COLOR is the BSS color of the BSS with which the STA is associated and the BSS Color Disabled subfield is 0 in the most recently received HE Operation element from the AP to which it is associated.
* The PPDU is a VHT PPDU where the RXVECTOR parameter PARTIAL\_AID is the BSSID[39:47] of the BSS with which the STA is associated or any BSSID in Intra-BSS Set and the RXVECTOR parameter GROUP\_ID is 0.
* The PPDU is a PPDU with:
* An A-MPDU including TA or RA equal to either the BSSID of the BSS with which the STA is associated or the BSSID of any BSS of a multiple BSSID set that the STA's associated BSS belongs to orany BSSID in Intra-BSS Set and,
* The RA is not the individual MAC address of the STA or the group address(es) of the STA
* The PPDU is either an HE MU PPDU with the RXVECTOR parameter UL\_FLAG set to 0 or a VHT MU PPDU containing an A-MPDU with
* The RA(s) in the A-MPDU is(are) equal to the STA's individual address and,
* The STA has received in the A-MPDU at least one MPDU delimeter with EOF equal to 1 and with MPDU length field equal to 0.